

Quick start.

A project with SpagoBI 3.x

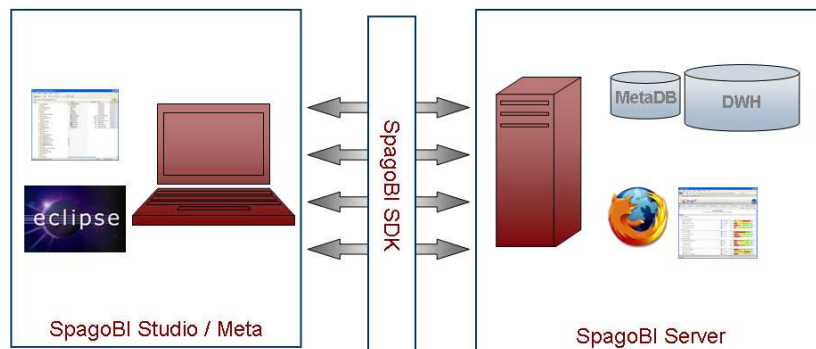
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This guide is a step-by-step pathway aiming to help users to easily setup their own BI scenarios, from data modelling to data inquiry, using the Meta, Studio and Server modules of SpagoBI suite.

SPAGOBI

Hereby a simple view of the involved modules and a short description of each of them.



- *What is SpagoBI Server?*
 - It is a web application deployed into a J2EE application server (Tomcat, JBoss, WebSphere, etc.)
 - It can run on any operating system that supports JVM from 1.5 (1.6 preferred)
 - It works with a private repository hosted on DBMS (MySQL, Postgres, Oracle, Ingres, HSQL, etc.)
 - The application can be accessed through almost all major web browsers (IE, Firefox, Opera, Safari)
 - It natively runs on several portal servers (liferay, exo portal, WwebSphere, etc.)

- *Who is it for?*
 - End-user: unified access point through the web browser
 - System administrators: through the management web interface

- *What is it for?*
 - Environment offering all typical [BI functionalities](#) :
 - Report
 - OLAP
 - Chart
 - Data Mining
 - GEO-referenced analysis
 - Free Inquiry (QbE)
 - Data Filtering (Smart Filter)
 - Ad hoc reporting (Worksheet)

- RT dashboards
 - RT console
 - Accessible reporting
 - Interactive cockpits
 - KPI (modeller and navigator)
 - Analytical Dossier and workflow
 - Office integration
 - ETL
- It allows to manage the product through a web interface
 - It allows to manage the object lifecycle inside the BI repository
 - It exposes tools and cross services, such as scheduling, collaboration, etc.
- *What is SpagoBI Meta?*
 - It is an eclipse plug-in
 - *Who is it for?*
 - Data Modelers and Data Owners setting up the semantic layer on which the BI project will be based
 - *What is it for?*
 - It is a graphical environment to develop business models (semantic layer)
 - It allows to deploy Business Models into SpagoBI Servers
 - It allows to inquiry Business Models before designing an analytical document
 - *What is SpagoBI Studio?*
 - It is an eclipse plug-in
 - *Who is it for?*
 - SpagoBI developers creating analytical documents (chart, report, dashboard, etc.)
 - *What is it for?*
 - It is a graphical environment to develop, test and deploy analytical documents (such as reports) into one or more SpagoBI Servers
 - *What is SpagoBI SDK?*
 - It is a collection of web services, tags and JavaScript API that permit other applications to interact with a SpagoBI Server
 - *Who is it for?*
 - Project teams that need to integrate SpagoBI
 - *What is it for?*
 - It allows to use SpagoBI from external applications

SpagoBI Meta and Studio can also be plugged into the same Eclipse.

SOFTWARE DOWNLOAD

Download the following packages of the most recent SpagoBI release from OW2 Consortium Project Forge (<http://forge.ow2.org>).

“All-In-One-SpagoBI<last release tag>”

This package contains a standard installation of SpagoBI running on Tomcat, all engines already configured for you and a simple demo of SpagoBI functionalities on a HSQL DB repository.

“SpagobiMetaAndStudio-<os version>”

It is a pre-packaged eclipse including the studio and meta plug-in. Select the package for your OS platform.

“SpagobiMeta-<os version>”

It is a pre-packaged eclipse including the meta plug-in. Select the package for your OS platform.

If you want to install the BI repository on a different database, you have to download the SQL scripts that create the empty schema into one of the supported RDBMS and execute them on your DB console.

SOFTWARE INSTALLATION AND CONFIGURATION

Installing SpagoBI Server

Unzip the server package in a folder of your machine (<SpagoBI-dir> here) and execute the start-up script that you'll find under the folder <SpagoBI-dir>\apache-tomcat-6.0.18\bin.

Open the browser and type <http://localhost:8080/SpagoBI>. Now you can login using the following standard account: biadmin (password: biadmin) or bidemo (password: bidemo).

SpagoBI repository configuration

If you decide to create the repository on a different RDBMS, execute the SQL script that creates the schema repository inside your RDBMS and remember to change the datasource configuration on [server.xml](#) file on your \apache-tomcat-6.0.18\conf directory.

For a MySQL database you have to insert an xml code like the following:

```
<name="jdbc/spagobi" password="your password" type="javax.sql.DataSource"
url="jdbc:mysql://<your hostname>/<spagobi repository>" username="your username"/>
```

where "spagobi repository" is the name of the database built up with the SQL script of the selected release and RDBMS platform.

Data warehouse resource configuration

Similar settings should be done to configure the data warehouse to be inquired with SpagoBI.

```
<name="jdbc/<my resource name>" password="your password" type="javax.sql.DataSource"
url="jdbc:mysql://<your hostname o IP address>/<your dwh db name>" username="your
username"/>
```

Don't forget to include the resource link in each context and to change the hibernate dialect accordingly on [hibernate.cfg.xml](#), [quartz.proprties](#) and [jbpm.cfg.xml](#) files under the \apache-tomcat-6.0.18\webapps\SpagoBI\WEB-INF\classes directory.

Login as biadmin and create a new datasource entry from resources/datasource menu. Remember to set the hibernate dialect corresponding to your RDBMS platform and to set the JNDI resource as follows: `java:comp/env/jdbc/<my resource name>`.

Installing SpagoBI Studio and Meta

In this scenario we refer to a Studio and Meta combined package, but the procedure can also be applied to the Studio and Meta components separately.

For both Studio and Meta, unzip the Studio package on a local folder and start up the Studio ([SpagoBI.exe](#)). Now, define a workspace that will contain your local project files. Lastly create a new DB connection inside the datasource explorer pointing to your datasource.

Visit the SpagoBI Wiki to get more information about the SpagoBI modules installation and configuration. [here](#)

USE SPAGOBI META

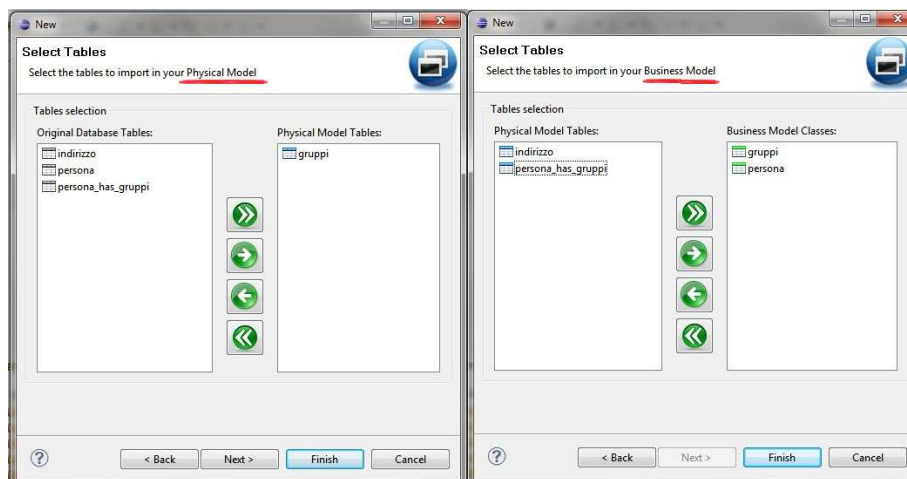
CREATE A BUSINESS MODEL

Inside the Studio, open a **SpagoBI PERSPECTIVE** and create a new project by clicking the symbol with the SpagoBI icon in the toolbar.

To create a new business model (BM) you must be positioned on the **STUDIO** window left side, select "new model" with the right mouse button and follow the instructions for abstracting the model.

At the first step, you have to choose which physical tables are required to create your BM.

Secondly, you have to define the queryable model: the Business Model. To create the business classes, just drag & drop the entities selected in the first step from the left panel. Once the model is created, you can perform several operations, such as deleting attributes and entities, editing attributes and entities properties, creating new relationships and business classes.



Visit the *SpagoBI Meta* wiki page to discover all the functionalities available on *Studio/Meta* client. [here](#)

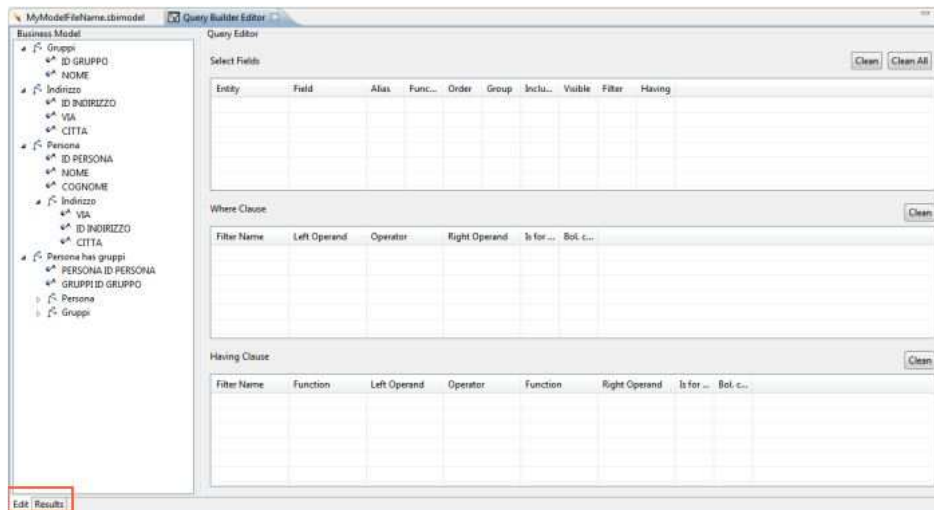
INQUIRY THE MODEL

To be able to inquiry your model click on the main window, right click on the icon "business model": create -> query.

The inquiry must be labelled and positioned inside the folder **DATASET**.

Set the query and click on **RESULT TAB** to see the result of your query.

Remember that the graphical query builder solves all joins between tables and data, so the developer has not to write any SQL statement, but that doesn't mean you can't do it !
The direct SQL can be written into a SpagoBI Data Set every time you need a special tuning on your query.



DEPLOY THE MODEL AND THE QUERIES INTO SPAGOBİ SERVER

Now, in order to deploy the BM and Dataset into SpagoBI Server, you have to define the right connection to it. Once the connection is created, you can upload the model and the query that you've just defined. Remember to define a meaningful label and select the data source.

Afterwards, connect to a SpagoBI Server: your Business Model has become a [Datamart QbE](#) document inside SpagoBI. The BM will be saved in your personal folder, so if you've logged in with biadmin, you'll find the model in the folder biadmin.

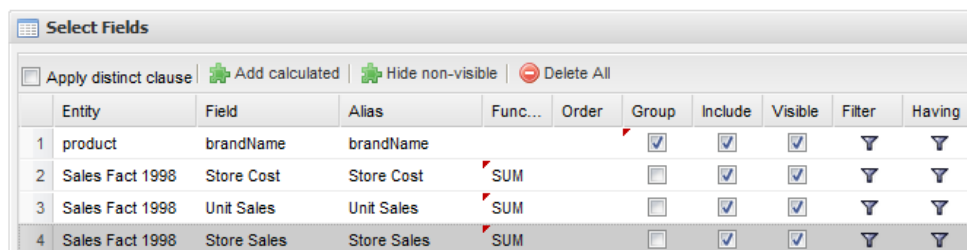
Similarly dataset created from BM queries can be deployed on server and used by analytical documents.

Verify that your dataset has been sent successfully, by clicking on menu **RESOURCES -DATASET**.

CREATE A WORKSHEET

Create the query

Open the QBE file that identifies the BM previously created, select your fields of interest and verify your results on the second tab of the main window of SpagoBI Server.

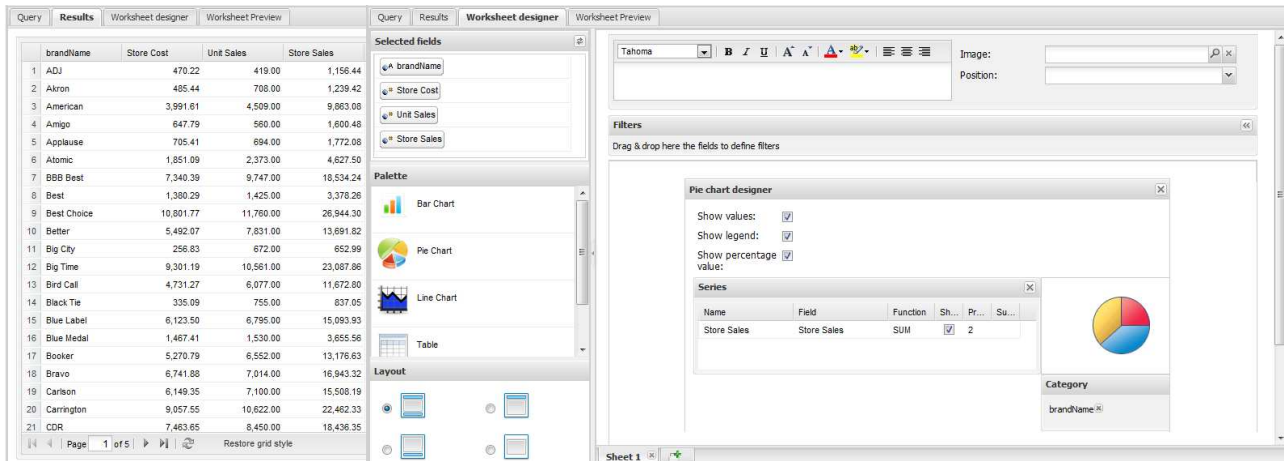


Build the worksheet

Now you can create your first WorkSheet. Just click on the third tab "worksheet designer". Please, refresh selectable fields on the upper left and drag the widget that you want to be included in the central panel and the fields that you want to be displayed in your object.

To check the results, click the fourth tab "worksheet preview."

To add a new object to your document, you can click on the *green PLUS* in the designer (below the main window), to have a new sheet available.



The screenshot shows the SpagoBI Worksheet Designer interface. On the left, there is a data table with columns: brandName, Store Cost, Unit Sales, and Store Sales. The table contains 21 rows of data. In the center, there is a 'Selected fields' list containing brandName, Store Cost, Unit Sales, and Store Sales. To the right of the selected fields is a 'Palette' containing various widget options: Bar Chart, Pie Chart, Line Chart, and Table. On the far right, there is a 'Pie chart designer' dialog box. This dialog has checkboxes for 'Show values', 'Show legend', and 'Show percentage', all of which are checked. Below these is a 'Series' table with columns: Name, Field, Function, Sh..., Pr..., Su... The table contains one row: Store Sales, Store Sales, SUM, [checkbox], 2. To the right of the series table is a small pie chart. Below the series table is a 'Category' field with the value 'brandName'.

More on Widget

Let's see what can be done with the worksheet.

The widgets now available are:

- Basic Table
- Pivot Table
- Pie chart
- Line/area charts
- Bar/stacked charts

Adding a pivot table

Drag the **pivot widget** from the palette to the main panel.

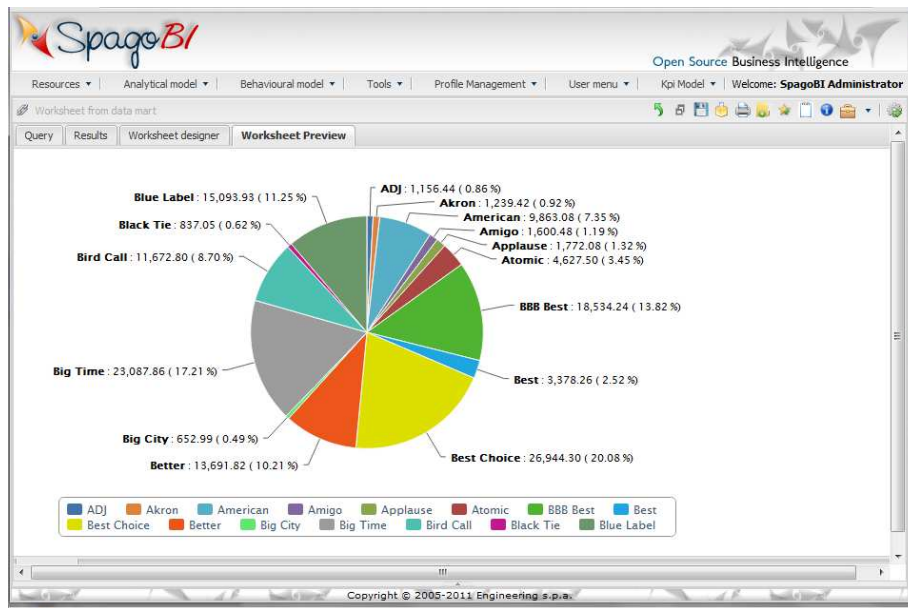
Drag measures into the related area and some attributes inside the rows and columns area.

As for measure, remember that it is very important to previously set the attribute property "type" as a measure in the BM, otherwise the widget fields will not be displayed.

Adding a chart.

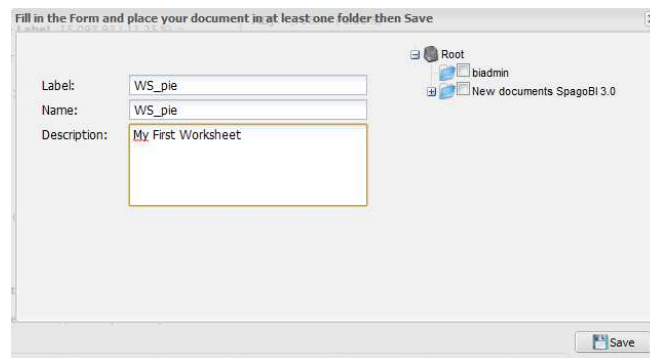
Go back to the designer and add a new sheet, then drag the **pie widget** into the main page and refresh the fields catalogue. Inside the SERIES area, drag the fields defined as a measure and, inside the CATEGORIES area, drag the attributes that have to be associated with the reference measures.

Now click on the preview to see the final chart.



Publish the Worksheet

Save your document, by clicking the icon at the top right and selecting the folder to save it in.



Fill in the Form and place your document in at least one folder then Save

Label: WS_ple

Name: WS_ple

Description: My First Worksheet

File Explorer: Root, biadmin, New documents SpagoBI 3.0

Save

SPAGOBI STUDIO : CREATE A CHART

Business models are an excellent starting point for creating SpagoBI analytical documents. In fact, all datasets created with the query builder and deployed on SpagoBI Server can be used to feed reports, charts ...

Now let's create a chart document.

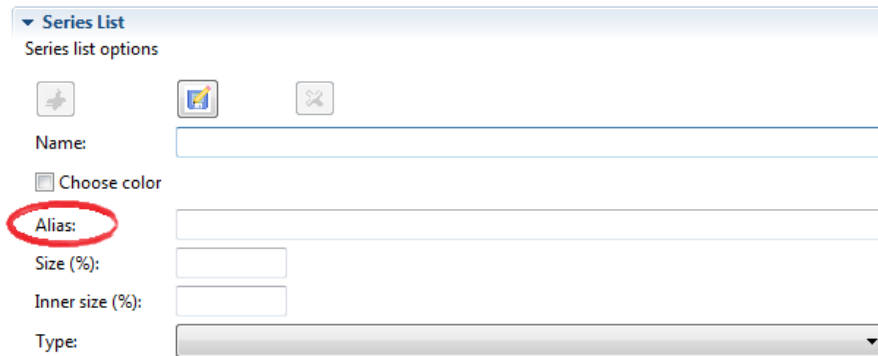
SpagoBI Studio allows you to create two kinds of charts: charts from the JfreeChart library and charts from the HighChart library. We'll refer to the new HighChart charts.

Chart settings might vary from chart to chart, so we suggest to check the wiki chart engine page in order to understand how to correctly configure the chart properties.

Create the chart

Add a new *highchart* document under the “Sbianalysis” folder of your studio project. Click on the document to open the chart editor main page. Set the properties that define the general graph attributes, the graph layout and the dataset column corresponding to series and categories.

Remember that when you enter the properties of the series it is important to include the value of the alias used within the dataset previously uploaded.



Deploy to the server

By right clicking, the newly created document can be deployed inside SpagoBI Server.

Link the chart to a dataset

At the time of deployment, pay attention to properly bind the chart to the data set, as this is the way charts are fed with data.

Publish the chart

Now, inside SpagoBI Server, check the results of the document you have just deployed into the selected folder.

Visit the *SpagoBI* wiki page to discover all the functionalities available on Highcharts. [here](#)



Figura 1: BarChart

CONCLUSION

This quick overview of **SpagoBI 3.x** new functionalities demonstrates that granting the access to your data is definitely a matter of minutes.

This is particularly useful with agile BI approaches or when you need to build up a prototype or a POC in a short time. This can reduce project risks, avoiding to spend time and money on traditional BI activities before having a correct vision and stable users requirements.

References:

Web site SpagoBI:

<http://www.spagoworld.org/xwiki/bin/view/SpagoBI/>

Demo On-line:

http://spagobi.eng.it/SpagoBI/servlet/AdapterHTTP?PAGE=LoginPage&NEW_SESSION=TRUE

Wiki:

<http://wiki.spagobi.org/xwiki/bin/view/Main/>

Forum:

<http://www.spagoworld.org/jforum/forums/list.page>

Tracker (Jira):

<https://www.spagoworld.org/jira/browse/SPAGOBI>

Download:

http://forge.ow2.org/project/showfiles.php?group_id=204

Services:

Support: <http://www.spagoworld.org/xwiki/bin/view/SpagoBI/Support>

Consulting: <http://www.spagoworld.org/xwiki/bin/view/SpagoBI/Consulting>

Services Network: <http://www.spagoworld.org/xwiki/bin/view/SpagoBI/ServicesNetwork>

Shop: <https://spagoshop.spagoworld.org/spagoshop/>

Training: <http://www.spagoworld.org/xwiki/bin/view/SpagoBI/Training?language=en>